

CLAIMS

1. A keypad assembly for a communication device, comprising:
 - a main circuit board for light emitting diodes (LEDs);
 - 5 a keypad board; and
 - a lightguide sandwiched between the main circuit board and keypad board, the lightguide having window protrusions to accommodate the LEDs, the keypad board having openings within which the window protrusions fit in order to provide backlighting and sealing to the communication device.

2. A keypad assembly, comprising:
- a main circuit board;
- light emitting diodes (LEDs) coupled to the main circuit board;
- 5 a lightguide coupled to the main circuit board, the lightguide having window protrusions formed therein for accommodating the LEDs;
- a keypad board coupled to the lightguide, the keypad board having openings that align with the window protrusions of the lightguide; and
- a keypad membrane coupled to the keypad board.
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3. The keypad assembly of claim 2, wherein the lightguide includes a track within which the main circuit board is retained and about which an o-ring is coupled.
4. The keypad assembly of claim 3, wherein the lightguide is formed as a unitary
- 15 molded piece.
5. The keypad assembly of claim 4, wherein a substantially planar surface is formed when the keypad board openings are aligned with the window protrusions of the lightguide.
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6. The keypad assembly of claim 5, further comprising a back housing coupled to the o-ring such that the keypad board, lightguide, o-ring and back housing provide a sealed area for the main circuit board.

7. The keypad assembly of claim 1, wherein the keypad board is coupled to the lightguide with a sealing member.

8. The keypad assembly of claim 7, wherein the sealing member comprises an
5 adhesive layer.

9. The keypad assembly of claim 8, wherein the sealing member comprises a compressible material.

10 10. The keypad assembly of claim 1, further comprising:
electronic components disposed on the main circuit board; and
recesses formed in the lightguide to accommodate the electronic components.

11. The keypad assembly of claim 1, wherein the keypad member is translucent.
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12. The keypad assembly of claim 1, wherein the keypad board is a printed circuit board (pcb).

13. The keypad assembly of claim 1, wherein the main circuit board is a printed
20 circuit board (pcb).

14. A keypad assembly for a communication device, comprising:
a main circuit board having first and second surfaces;
electronic components disposed on at least one of the first and second surfaces of
the main circuit board;
- 5 light emitting diodes (LEDs) disposed on the second surface of the main circuit
board;
a connector coupled to the second surface of the main circuit board;
a lightguide coupled to the main circuit board, the lightguide having window
protrusions formed therein for accommodating the LEDs and recesses formed therein
10 for accommodating any electronic components located on the second surface of the
main circuit board, the lightguide further including an aperture for accommodating the
connector; and
a keypad board coupled to the lightguide through an adhesive layer, the keypad
board having openings that align with the window protrusions of the lightguide to
15 form a substantially planar surface, the keypad board mating with the connector; and
a keypad membrane coupled to the keypad board.
15. The keypad assembly of claim 14, wherein the lightguide includes a track
within which the main circuit board is retained and about which an o-ring is coupled.
- 20 16. The keypad assembly of claim 15, wherein the lightguide is formed as a
unitary molded piece.

17. The keypad assembly of claim 16, further comprising a front and back housing of the communication device for retaining the keypad assembly.

18. The keypad assembly of claim 17, wherein the keypad board, adhesive layer,
5 lightguide, o-ring provide and back housing provide a sealed area for the main circuit board.

19. The keypad assembly of claim 14, wherein the LEDs provide backlighting to the keypad.

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20. The keypad assembly of claim 14, wherein the keypad member is translucent.

21. The keypad assembly of claim 14, wherein the keypad board does not require
15 any soldering process.